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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/674,837

09/30/2003

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EXAMINER

ROBINSON, MYLES D

ART UNIT

PAPER NUMBER

2625

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DELIVERY MODE

08/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/674,837	Applicant(s) ELDRIDGE ET AL.	
	Examiner Myles D. Robinson	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/30/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The examiner has considered the references listed in the Information Disclosure Statement (IDS) submitted on 9/30/2003 (see attached PTO-1449).

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the printed result using the first set of image pixels (as recited in claims 1 and 13), the output image (as recited in claim 9), the printer, the contone rendering module, the image output terminal (as recited in claim 13), how the end print is visually substantially equivalent to the printed result (as recited in claim 1) and the process wherein the manner is indistinguishable to the human eye (as recited in claim 8) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. ***Claims 2 and 14*** are objected to because of the following informalities: misspelling errors. It is suggested that "indicating the are edge pixels" be revised to read "indicating the they are edge pixels" in lines 2 – 3 and lines 3 – 4 of the respective claims.
4. ***Claim 20*** is objected to because of the following informalities: improper subject-verb agreement. It is suggested that "more than one compression algorithms" be revised to read "more than one compression algorithms algorithm" in line 2.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. ***Claims 1 – 7 and 13 – 20*** are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The printing of a result using the first set of image pixels and using the second set of image pixels (i.e. a printed result and an end print, respectively) critical or essential to the practice of the invention, but not included in

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the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). **Claims 1 and 13** lack any step or method of printing or outputting a printed result using the first set of image pixels.

All claims dependent upon these claims suffer the same deficiency and, therefore, are rejected as well.

6. **Claims 1 – 20** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, it is undue. Such factors that determine experimentation as “undue” comprise: the state of the level of predictability in the art, the amount of direction provided by the inventor, the existence of working examples and the quantity of experimentation needed to make or use the invention based on the content of the disclosure. It is improper to conclude that a disclosure is not enabling based on an analysis of only one of the above factors while ignoring one or more of the others. The examiner’s analysis must consider all the evidence related to each of these factors, and any conclusion of nonenablement must be based on evidence as a whole. See MPEP 2164.01 and 2164.01(a).

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The specification discloses the claims encompass future, unforeseen modifications, improvements, alternatives, equivalents and substantial equivalents from the applicants and others (see *page 8, lines 9 – 13*). This assertion fails to comply with the enablement requirement because:

- There is a great variance in the predictability of the art;
- There is a lack of direction on behalf of the inventor(s) whom claim the disclosure and any possible, presently non-existing equivalents will work properly along with other adaptations which have yet to be invented by the inventor(s) or others;
- There is a lack of working examples of how the instant disclosure and any possible, presently non-existing equivalents will work properly along with other adaptations which have yet to be invented by the inventor(s) and/or others; and
- It is presently unknown or incalculable how much experimentation is proper and reasonable for one of ordinary skill in the art to make or use the invention and any possible, presently non-existing equivalents will work properly with other adaptations which have yet to be invented by the inventor(s) and/or others.

One does not look to the claims but to the specification to find out how to practice the claimed invention. *W.L. Gore & Assoc., Inc. v. Garloc, Inc.*, 721 F.2d 1540, 1558, 220 USPQ 303, 316-17 (Fed. Cir. 1983). The specification does not disclose future, unknown, presently non-existing variations, alternatives, modifications, improvements,

equivalents and substantial equivalents of the embodiments and teachings disclosed therein. Therefore, the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention at the time the invention was filed.

All claims dependent upon these claims suffer the same deficiency and, therefore, are rejected as well.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. ***Claims 1 – 20*** are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a credible asserted utility or a well-established utility.

One does not look to the claims but to the specification to find out how to practice the claimed invention. *W.L. Gore & Assoc., Inc. v. Garloc, Inc.*, 721 F.2d 1540, 1558, 220 USPQ 303, 316-17 (Fed. Cir. 1983). The specification does not disclose future, unknown, presently non-existing variations, alternatives, modifications, improvements, equivalents and substantial equivalents of the embodiments and teachings disclosed therein. Therefore, the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention at the time the invention was filed.

Furthermore, **Claims 1 – 20** are rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a credible asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention (see rationale provided above in §112, paragraph 1 rejection).

All claims dependent upon these claims suffer the same deficiency and, therefore, are rejected as well.

9. **Claims 1 – 20** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

10. **Claims 1, 8 and 13** are drawn to a claimed invention which does not transform an article or physical object to a different state or thing. See MPEP 2106 IV (C)(2)(1).

The result in an end print of the second set of image pixels is visually substantially the same as the printed result of the first set of image pixels. Pixels, which are neither articles nor physical objects, are not transformed if the first and second sets are substantially the same. Furthermore, the end print and printed result are substantially the same and are not transformed.

All claims dependent upon these claims suffer the same deficiency and, therefore, are rejected as well.

11. **Claims 1, 8 and 13** are drawn to a claimed invention which does not produce a concrete result. See MPEP 2106 IV (C)(2)(2)(c).

The process must have a result that can be substantially repeatable or the process must substantially produce the same result again. *In re Swartz*, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000). The opposite of “concrete” is unrepeatable or unpredictable. An appropriate rejection under §101 should be accompanied by a lack of enablement rejection under §112, paragraph 1, where the invention cannot operate as intended without undue experimentation (see rationale provided above in §112, paragraph 1 rejection).

One does not look to the claims but to the specification to find out how to practice the claimed invention. *W.L. Gore & Assoc., Inc. v. Garloc, Inc.*, 721 F.2d 1540, 1558, 220 USPQ 303, 316-17 (Fed. Cir. 1983). The specification does not disclose future, unknown, presently non-existing variations, alternatives, modifications, improvements, equivalents and substantial equivalents of the embodiments and teachings disclosed therein. Therefore, the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention at the time the invention was filed wherein the outcomes are repeatable and predictable.

All claims dependent upon these claims suffer the same deficiency and, therefore, are rejected as well.

12. **Claims 1 and 8** are drawn to non-functional descriptive material. See MPEP 2016 (Nonfunctional Descriptive Material) which states:

“Descriptive material that cannot exhibit any functional interrelationship with the way in which computing processes are performed does not constitute a statutory process, machine, manufacture or composition of matter and should be rejected under 35 U.S.C. 101.”

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"Where certain types of descriptive material, such as music, art, photographs and mere arrangements or compilations of facts or data, are merely stored so as to be read or outputted by a computer without creating any functional interrelationship, either as part of the stored data or as part of the computing process performed by the computer, then such descriptive material alone does not impart functionality either to the data as so structured, or to the computer."

"For example, music is commonly sold to consumers in the form of a compact disc. In such cases, the know compact disc acts as nothing more than a carrier for nonfunctional descriptive material. The purely nonfunctional descriptive material cannot alone provide the practical application for the manufacture."

"When nonfunctional descriptive material is recorded on some computer-readable medium, it is not statutory since no requisite functionality is present to satisfy the practical application requirement."

Claims 1 and 8 currently recite image pixels corresponding to printing hints and the method step of adjusting printing hints. These images are merely stored so as to be read or outputted by a computer without creating any functional interrelationship, either as part of the stored data or as part of the computing process performed by an inherent computer. Also, the adjusting of printing hints is a mere arrangement of data. There is no functional relationship imparted by this data to a computing device. Therefore, the claim is drawn to non-functional descriptive material which is non-statutory per se.

All claims dependent upon these claims suffer the same deficiency and, therefore, are rejected as well.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. **Claims 1, 8 and 13** are rejected under 35 U.S.C. 102(e) as being anticipated by **Jacobsen et al.** (U.S. Pre-Grant Publication No. 2004/0227963).

Referring to **claim 13**, Jacobsen discloses a printer (see *Figs. 1 – 2, printing device 104 [paragraph 0022]*) comprising:

a contone rendering module (see *Fig. 2, memory 218 comprising display list generator 220 produces display list commands [i.e. printing hints] which include color commands which define the color of objects within a specific color space [paragraphs 0027 and 0051]*) for generating a first set of image pixels having corresponding printing hints for processing saturated pixels thereby producing different printing hint values (*paragraphs 0047 – 0050 wherein sum of the three full color values, whether in the RGB or CMY color systems, produce saturated pixels and color component values within display list color commands range in values from zero to 255 which represent the different printing hint values for object colors*), and

an image output terminal (see *Fig. 2, memory 218 comprising display list loss encoder 222 [paragraphs 0028 – 0029]*) for receiving the different printing hint values to produce a second set of image pixels (see *Fig. 7, step 706 wherein 24-bit color pixels are converted to 8-bit gray pixels once the threshold of step 704 is exceeded [paragraphs 0067 – 0069]*) processed to result in an end print visually substantially equivalent to a printed result using the first set of image pixels (*paragraphs 0006 – 0008 and 0067 wherein a 24-bit color pixel is converted to a visually equivalent 8-bit gray*

pixel to directly introduce loss to commands in the display list and increase memory savings).

Referring to **claims 1 and 8**, the rationale provided in the rejection of claim 13 is incorporated herein. In addition, the apparatus of claim 13 performs the methods of claims 1 and 8. Furthermore, the phrase “visually substantially equivalent” is analogous to “a manner to be indistinguishable to the human eye.”

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. **Claims 1, 8, 13 and 20** are rejected under 35 U.S.C. 102(b) as being anticipated by **Lin et al.** (U.S. Pre-Grant Publication No. 2002/0076103).

Referring to **claim 13**, Lin discloses a printer (see *Fig. 1, print engine 32 [paragraph 0034]*) comprising:

a contone rendering module (see *Fig. 4 wherein pixel-based image segmentation module 202 produces rendering hints [i.e. printing hints] based upon the inputted contone image data*) for generating a first set of image pixels (*paragraph 0052*) having corresponding printing hints (*paragraphs 0004 and 0041*) for processing saturated pixels (*paragraphs 0046 and 0071 wherein a “black” pixel of a logical one value is analogous to a saturated pixel*) thereby producing different printing hint values

(paragraph 0071 wherein “black” and “white” pixels [i.e. saturated and zero pixels, respectively] are processed differently), and

an image output terminal (see Fig. 4 wherein combining module 204 receives rendering hints from pixel-based image segmentation module 202) for receiving the different printing hint values to produce a second set of image pixels (see Fig. 8, step 510 [paragraph 0069]) processed to result in an end print (see Fig. 1, output document 34) visually substantially equivalent to a printed result (see Fig. 1, input document 14) using the first set of image pixels (see Fig. 8, step 514 [paragraphs 0030 and 0072 wherein the same input image is segmented and outputted]).

Referring to **claim 20**, Lin discloses the printer further wherein the contone rendering module uses more than one compression algorithm (see Fig. 1, compression module 24 [paragraphs 0003 and 0033 wherein objects within a segmented image undergo appropriate compression method [e.g. contone images undergo JPEG compression, text and character data undergo LZW compression, etc.]]).

Referring to **claims 1 and 8**, the rationale provided in the rejection of claim 13 is incorporated herein. In addition, the apparatus of claim 13 performs the methods of claims 1 and 8. Furthermore, the phrase “visually substantially equivalent” is analogous to “a manner to be indistinguishable to the human eye.”

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. **Claims 4, 5, 11, 12, 16 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jacobsen et al.** (U.S. Pre-Grant Publication No. 2004/0227963) in view of **Lefebvre et al.** (U.S. Patent No. 5,075,779).

Referring to **claims 5, 12 and 17**, Jacobsen discloses the printer and methods as discussed above in the rejection of claims 1, 8 and 13 but does not explicitly disclose the printer and methods further comprising using run length compression to compress the adjusted printed hints.

Lefebvre discloses the methods further comprising using run length compression to compress the adjusted printed hints (*see Figs. 4 and 7 [Abstract, column 2, lines 10 – 32, column 3, line 51 – column 4, line 2 and column 5, lines 41 – 59 wherein the information in the display list associated with objects is analogous to printing hints]*).

Jacobsen and Lefebvre are combinable because they are from the same field of endeavor, being printing hints rendering digital images. At the time of the invention, it would have been obvious to one of ordinary skill in the art to include run length compression of printing hints along with rendering digital images. The suggestion/motivation for doing so would have been to delete or overwrite all unnecessary information and to increase processing efficiency, as suggested by Lefebvre (*column 1, line 39 – column 2, line 9 and column 3, line 37 – column 4, line 2*).

Referring to **claims 4, 11 and 16**, the rationale provided in the rejection of claims 5, 12 and 17 is incorporated herein. In addition, the apparatus and methods of claims 5,

12 and 17 include the elements and limitations recited in the apparatus and methods of claims 4, 11 and 16. Furthermore, run length compression is a specific type of lossless compression.

19. **Claims 4, 5, 11, 12, 16 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lin et al.** (U.S. Pre-Grant Publication No. 2002/0076103) in view of **Lefebvre et al.** (U.S. Patent No. 5,075,779).

Referring to **claims 5, 12 and 17**, Lin discloses the printer and methods as discussed above in the rejection of claims 1, 8 and 13 but does not explicitly disclose the printer and methods further comprising using run length compression to compress the adjusted printed hints.

Lefebvre discloses the methods further comprising using run length compression to compress the adjusted printed hints (see *Figs. 4 and 7 [Abstract, column 2, lines 10 – 32, column 3, line 51 – column 4, line 2 and column 5, lines 41 – 59 wherein the information in the display list associated with objects is analogous to printing hints]*).

Lin and Lefebvre are combinable because they are from the same field of endeavor, being printing hints rendering digital images. At the time of the invention, it would have been obvious to one of ordinary skill in the art to include run length compression of printing hints along with rendering digital images. The suggestion/motivation for doing so would have been to delete or overwrite all unnecessary information and to increase processing efficiency, as suggested by Lefebvre (*column 1, line 39 – column 2, line 9 and column 3, line 37 – column 4, line 2*).

Referring to **claims 4, 11 and 16**, the rationale provided in the rejection of claims 5, 12 and 17 is incorporated herein. In addition, the apparatus and methods of claims 5, 12 and 17 include the elements and limitations recited in the apparatus and methods of claims 4, 11 and 16. Furthermore, run length compression is a specific type of lossless compression.

Allowable Subject Matter

20. **Claims 2, 3, 6, 7, 9, 10, 14, 15, 18 and 19** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to **claims 2, 6, 9, 14 and 18**, the innovative limitation that distinguishes the Applicant's claim is adjusting the printing hints of those fully saturated pixels (i.e. text pixels, black pixels) adjacent to edge pixels from printing hints for saturated pixels to printing hints for edge pixels.

Referring to **claims 3, 10 and 15**, the innovative limitation that distinguishes the Applicant's claim is adjusting the printing hints of those zero pixels (i.e. background pixels, white pixels) adjacent to edge pixels from printing hints for saturated pixels to printing hints for edge pixels.

Referring to **claims 7 and 19**, the innovative limitation that distinguishes the Applicant's claim is entropy is reduced by greater than forty percent.

As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McElvain (U.S. Pre-Grant Publication Nos. 2004/0264786 and 2004/0263909) discloses a method for tag plane growth and contraction using run length encoded data (see *Fig. 4*).

McElvain (U.S. Pre-Grant Publication No. 2004/0263878) discloses a method for identifying objects of white background for optimized rendering (see *Abstract*).

Curry et al. (U.S. Pre-Grant Publication No. 2004/0001648) disclose a dynamic threshold system for multiple raster content (MRC) representation of documents (see *Fig. 15*).

Lin et al. (U.S. Patent No. 6,941,014) disclose a method for segmenting an image using a combination of image segmentation techniques (see *Abstract*).

Hickman et al. (U.S. Patent No. 6,091,509) disclose a printer system for sending data hints of upcoming data such as whether the row is black only, color only or a

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combination of black and color as well as the location of non-zero pixels positions (see *Abstract*).

Rumph et al. (U.S. Patent No. 6,006,013) disclose an object optimized printing system wherein a metabit is analogous to a printing hint (see *Abstract*).

Rumph et al. (U.S. Pre-Grant Publication No. 2003/0025945) disclose a method for trapping raster data in a run-length encoded form such that the method inspects the run lengths in each scanline to determine the color edges of the image, sends the colors at the boundaries to the trap generator to determine the trap color and modifies the intersecting runs with the trap color (see *Abstract*).

Loce et al. (U.S. Patent No. 6,243,499) disclose tagging of antialiased images that improves recognition of fine gray features and enable the detection of both black and white features on high and low contrast backgrounds (see *Abstract*).

Nguyen et al. (U.S. Patent No. 6,529,553) disclose HVQ compression for image boundaries (see *Abstract and Figs. 5 and 8 – 9*).

Eldridge et al. (U.S. Patent No. 6,307,977) disclose a set of run-length codewords containing printing hints (see *Abstract and Fig. 1*).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Myles D. Robinson whose telephone number is (571) 272-5944. The examiner can normally be reached on M-F 8:30am-5:00pm.

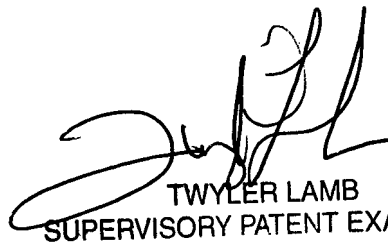
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler M. Lamb can be reached on (571) 272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MDR

8/6/07



TWYLER LAMB
SUPERVISORY PATENT EXAMINER